**Vassort, G.**, see Fischmeister, R., et al. 340

**Vaughan-Jones, R.D., Kaila, K.**
The sensitivity of liquid sensor, ion-selective microelectrodes to changes in temperature and solution level 641

**Verdonck, F.**, see Glitsch, H.G., et al. 464

**Vereecke, J.**, see Callewaert, G., et al. 424

**Vogel, S.M.**, see Farley, J.M., et al. 629

**Vybíral, S., Nacházel, J., Janský, L.**
Hyperthermic effect of neurotensin in the rabbit 312

**Wakui, M., Fukushi, Y.**
Dual excitatory actions of acetylcholine at the neuromuscular junction in the guinea-pig vas deferens 587

**Wąsik, K.**, see Tuganowski, W., et al. 232

**Watanabe, T., McDonald, T.F.**
Tetrodotoxin exerts a large frequency-dependent depression of the maximum rate of rise of action potentials in guinea pig ventricular myocytes 645

**Watt, D.D.**, see Simard, J.M., et al. 620

**Weinman, E.J.**, see Hise, M.K. 234

**Welters, H.F.**, see Loeschke, K., et al. 323

**Werner, J., Graener, R.**
Thermoregulatory responses to cold during a 7-week acclimatisation process in rabbits 547

**Wittenberg, C., Chosniak, I., Shkolnik, A., Thurau, K., Rosenfeld, J.**
Effect of dehydration and rapid rehydration on renal function and on plasma renin and aldosterone levels in the black Bedouin goat 405

**Wójcik, B.**, see Tuganowski, W., et al. 232

**Yamashita, Y., Ogawa, H., Taniguchi, K.**
Differential effects of manganese and magnesium on two types of slowly adapting cutaneous mechanoreceptor afferent units in frogs 218

**Yee, W.F.H., Scarpelli, E.M.**
$CO_2$ responsivity in the mouse measured by rebreathing 615

**Yoshida, S., Fujimura, K., Matsuda, Y.**
Effects of quinidine and quinine on the excitability of pyramidal neurons in guinea-pig hippocampal slices 544

**Yoshimura, M., Polosa, C., Nishi, S.**
Electrophysiological properties of sympathetic preganglionic neurons in the cat spinal cord in vitro 91

**This volume includes a supplement with the abstracts of the 63rd meeting (spring-meeting) of the Deutsche Physiologische Gesellschaft, March 18–21, 1986, Berlin R1–R66**

Indexed in *Current Contents*

# Subject index

**A**
Abdominal temperature 351
Absorption 509
Acetylcholine 173, 587, 608
– receptors 99
– transport into synaptic vesicles 83
Acetylcholinesterase 83
Acid excretion 520
Acidosis 608
Acinar cells 69
– secretion 492
Acousticolateral processing 151
Acridine orange fluorescence 430
Action potential 91, 151, 645
– potential repolarization 112
Actomyosin-ADP-complexes 20
Actylcholine-activated channels 629
Acute spinal cats 392
Adenine nucleotide compartmentation 20
Adenosine 25, 158, 608
– uptake blockers 25
Adipose tissue blood flow 37
ADP binding 20
ADP complexes 20
ADP 158
Adrenergic neurotransmitter on K transport 1
β-Adrenergic receptor 1
Aequorin 427
Afferent arteriole 578
After-depolarization 112
After-hyperpolarization 91, 112
Aldosterone 380, 405
Alkylguanidines 629
Alpha adrenergic receptor stimulation 356
– – receptors 57
Amiloride 198, 285, 362, 380
Ammonia inhalation 303
Ammon's horn 86
AMP 158
Angiotensin II 578
Anion exchange 60
Anionic food dyes 88
Anions 279
Anti-cholinesterase 83
Aortic baroreceptor afferents 12
Apical cell membrane 557, 563
– membrane 198
Arginine esterase 6
Arteriole 578
ATP 20, 158, 587
ATP-evoked membrane response 158
Atria 45
Atrial natriuretic peptides 237
– – polypeptide 273
Atriopeptin II 237
Augmentation 636
Automomic nervous system 91, 392
Avian thermoregulation 343

**B**
$BaCl_2$ 380
BAPTA 315
Barium 190, 241, 308, 367, 437, 574
Barnacle myofibrillar bundles 315
Baroreceptor denervation 356
Basolateral cell membrane 291
– membrane vesicles 430
BAY K 8644 497
Benzodiazepines 25
Bicarbonate reclamation 520
Bioluminescent indicator aequorin 427
Birth 45
Black Bedouin goat 405
Blood flow 37
– pressure 225
– temperature 600
Body temperature control 312
– temperatures 547
Botulinum toxin 636
Br 60
Bradykinin 608
Brain temperature 184
Brainstem slices 372
Breathing frequency 343

**Vassort, G.**, see Fischmeister, R., et al. 340

**Vaughan-Jones, R.D., Kaila, K.**
The sensitivity of liquid sensor, ion-selective microelectrodes to changes in temperature and solution level 641

**Verdonck, F.**, see Glitsch, H.G., et al. 464

**Vereecke, J.**, see Callewaert, G., et al. 424

**Vogel, S.M.**, see Farley, J.M., et al. 629

**Vybíral, S., Nacházel, J., Janský, L.**
Hyperthermic effect of neurotensin in the rabbit 312

**Wakui, M., Fukushi, Y.**
Dual excitatory actions of acetylcholine at the neuromuscular junction in the guinea-pig vas deferens 587

**Wąsik, K.**, see Tuganowski, W., et al. 232

**Watanabe, T., McDonald, T.F.**
Tetrodotoxin exerts a large frequency-dependent depression of the maximum rate of rise of action potentials in guinea pig ventricular myocytes 645

**Watt, D.D.**, see Simard, J.M., et al. 620

**Weinman, E.J.**, see Hise, M.K. 234

**Welters, H.F.**, see Loeschke, K., et al. 323

**Werner, J., Graener, R.**
Thermoregulatory responses to cold during a 7-week acclimatisation process in rabbits 547

**Wittenberg, C., Chosniak, I., Shkolnik, A., Thurau, K., Rosenfeld, J.**
Effect of dehydration and rapid rehydration on renal function and on plasma renin and aldosterone levels in the black Bedouin goat 405

**Wójcik, B.**, see Tuganowski, W., et al. 232

**Yamashita, Y., Ogawa, H., Taniguchi, K.**
Differential effects of manganese and magnesium on two types of slowly adapting cutaneous mechanoreceptor afferent units in frogs 218

**Yee, W.F.H., Scarpelli, E.M.**
$CO_2$ responsivity in the mouse measured by rebreathing 615

**Yoshida, S., Fujimura, K., Matsuda, Y.**
Effects of quinidine and quinine on the excitability of pyramidal neurons in guinea-pig hippocampal slices 544

**Yoshimura, M., Polosa, C., Nishi, S.**
Electrophysiological properties of sympathetic preganglionic neurons in the cat spinal cord in vitro 91

**This volume includes a supplement with the abstracts of the 63rd meeting (spring-meeting) of the Deutsche Physiologische Gesellschaft, March 18–21, 1986, Berlin R1–R66**

Indexed in *Current Contents*

# Subject index

**A**
Abdominal temperature 351
Absorption 509
Acetylcholine 173, 587, 608
– receptors 99
– transport into synaptic vesicles 83
Acetylcholinesterase 83
Acid excretion 520
Acidosis 608
Acinar cells 69
– secretion 492
Acousticolateral processing 151
Acridine orange fluorescence 430
Action potential 91, 151, 645
– potential repolarization 112
Actomyosin-ADP-complexes 20
Actylcholine-activated channels 629
Acute spinal cats 392
Adenine nucleotide compartmentation 20
Adenosine 25, 158, 608
– uptake blockers 25
Adipose tissue blood flow 37
ADP binding 20
ADP complexes 20
ADP 158
Adrenergic neurotransmitter on K transport 1
β-Adrenergic receptor 1
Aequorin 427
Afferent arteriole 578
After-depolarization 112
After-hyperpolarization 91, 112
Aldosterone 380, 405
Alkylguanidines 629
Alpha adrenergic receptor stimulation 356
– – receptors 57
Amiloride 198, 285, 362, 380
Ammonia inhalation 303
Ammon's horn 86
AMP 158
Angiotensin II 578
Anion exchange 60
Anionic food dyes 88
Anions 279
Anti-cholinesterase 83
Aortic baroreceptor afferents 12
Apical cell membrane 557, 563
– membrane 198
Arginine esterase 6
Arteriole 578
ATP 20, 158, 587
ATP-evoked membrane response 158
Atria 45
Atrial natriuretic peptides 237
– – polypeptide 273
Atriopeptin II 237
Augmentation 636
Automomic nervous system 91, 392
Avian thermoregulation 343

**B**
$BaCl_2$ 380
BAPTA 315
Barium 190, 241, 308, 367, 437, 574
Barnacle myofibrillar bundles 315
Baroreceptor denervation 356
Basolateral cell membrane 291
– membrane vesicles 430
BAY K 8644 497
Benzodiazepines 25
Bicarbonate reclamation 520
Bioluminescent indicator aequorin 427
Birth 45
Black Bedouin goat 405
Blood flow 37
– pressure 225
– temperature 600
Body temperature control 312
– temperatures 547
Botulinum toxin 636
Br 60
Bradykinin 608
Brain temperature 184
Brainstem slices 372
Breathing frequency 343

Bronchus 303
Brown fat 37
Bumetanide 333

C
Ca blockers 218
Ca channels 104
Ca current 212, 340
Ca currents 104
Ca entry 121
Ca potential 190
$Ca^{2+}$ 6
$Ca^{2+}$ activation 563
$Ca^{2+}$ agonists 259
$Ca^{2+}$ concentration 315
$Ca^{2+}$ dependent $K^+$ channel 138
$Ca^{2+}$-channel current 259
$Ca^{2+}$-dependent release process 636
$Ca^{2+}$-free Ringer 181
Ca-activated Cl conductance 65
Ca-antagonist 190
Ca-channel currents 241
Ca-channel gating behaviour 241
Ca-dependent channels 65
Cadmium 190
Caffeine 173
Calcitonin 502
Calcium 173, 308, 427, 485, 497, 502
– channel currents 437
– current 372
– currents 433
Calcium-dependent potassium channel 424
Calmodulin antagonist 308
Calmodulin-dependent contraction 308
cAMP 328
Capacitance vasculature 356
Capsaicin 343
Carbodiimides 31
Carboxyl groups 31
Cardiac adenosine production 608
– cells 73
– glycosides 340
– muscle 232
– Purkinje cells 424
– – fibres 144, 464
Cardiac ventricular cells 241
Cardiovascular regulation 225
– responses to carotid chemoreceptor 225
Carotid bodies 419
– body 552
– chemoreceptors 225
– sinus nerve section 552
Catecholamine depleted rabbit 419
Catecholaminergic neurotransmitter 1
Catecholamines 37, 57
Cation, permselectivity 279
Cationic food dyes 88
CCCP 315
Cecectomy 328
Cecum 323
Cell cations 285
– membrane potential 367, 574
– membrane 557
– potassium, renal 285, 291
– sodium, renal 285, 291
– to cell coupling between gastric cells 204
Cell-attached patch clamp technique 73
Central chemosensitivity 392
Cesium permeation 629
Channel block 629
– conductance 73
– density 437
– molecule 31
Chemoreceptor response 419
Chloride 333
– secretion 204
– transport 60
Chloride-selective microelectrodes 88
Cholinergic receptors 45
Chopped current injection 540
Chronic hypercapnia 520
Chronically denervated canine kidney 57
Ciliate Stylonychia mytilus 212
Cinchocaine 303
$Cl^-$ activity 204
$Cl^-$ relaxing solution 315
$^{36}Cl$ flux 273
$^{36}Cl$ uptake 60
$Cl^-$-sensitive ion-exchanger microelectrodes (ISE) 88
Clearance experiments 387
Cobalt ion 557
$CO_2$ rebreathing 615
$CO_2$ responsivity 615
$CO_2/HCO_3^-$, protonophores 315
Co-transmitter hypothesis 578
Cold 480, 547
– acclimatisation 547
– defence 343
Colon 323, 328, 509
Colonic epithelium 509
Concanavalin A 212
Conscious dog 520
Contractile responses 51
Contraction-relaxation cycle 173
Core temperatures 600
Coronary artery 173
– endothelial cells 608
Cortex 25
Cosmetic dyes 88
Counter current system 279
Crayfish 131
Creatine (Cr) 20
– phosphate (CrP) 20
Cs ions 464
Cs Ringer solution 340
Cultured sensory and sympathetic neurons 104
Current relaxation analysis of $K^+$ current 69
Current-voltage curves 112
– relation 424
Cutaneous mechanoreceptor afferent units 218
Cyclohexyladenosine 25

D
Defence response 225
Dehydration 405
Denervated canine kidney 57
Denervation 51
Depolarization 121, 241
Descending colon 509
Desensitization 99
Development of cardiac cholinergic receptors 45
Development 234
Diacylglycerols 6
20,25-Diazacholesterol 266
DIDS 60, 333
Dihydroouabain 340
Dihydropyridine agonist BAY k 8644 259
3,4-Dihydroxyphenylacetic acid 552
Dilazep 25
Dipyridamole 25
Distal tubule 557
Diuretic 198
DMO-transport 568
Dopamine 104, 552
Dopaminergic pathways 312
Dorsal root 540
Double-pulse facilitation 449
2,3-DPG 594
Duchenne muscular dystrophy 163

E
EGTA 173, 315
Electrical field stimulation 1
– noise 536
– properties 367
Electrode resistance 88
– stability 641
Electrogenic $H^+$ ion pump 362
– – pump 362
Electrolyte transport 323
– in vitro 328
– – in vivo 323, 328
– – (large intestine) 328
Electron probe 502
Electrophysiological properties (symp. neurons) 91
Embryo cardiac cells 73
Endothelial cells 608
Endplate 449
Ensemble noise analysis 69
Epinephrine 367
Epithelia 492
– cells 204
Epithelioid cells 578
EPSC 131
Erythrocytes 333, 568
Erythropoesis 594
Ethoxzolamide 362
5'-N-ethylcarboxamide adenosine (NECA) 509
Ethylguanidine 629
Evaporative heat loss 312, 343
Evoked potentials 25
Excitability 544
Exercise 51, 594
– performance 184
Exocrine glands 65
Experimental myotonia 266

Extracellular buffer concentration 472
– fluid volume expansion 387

F
Facial temperature 351
Facilitation 121, 131, 449, 636
FCCP 315
Ferret portal vein 427
Fever 480
Fibre transformation 266
Filtration pressure 237
Fluorescein-labeled Concanavalin A 212
Fluorometric ultramicroassay 648
Food dyes 88
Frog heart 340
– muscle 472
– skin 362, 557
Furosemide 65, 285, 291, 333, 509, 557

G
Gall-bladder 497
Gallbladder 563
– epithelium 563
Ganglionic blockade 356
Gastric mucosa 204
Glomerular pressure 237
Glomeruli 485
Glycine sensitive area of ventral medulla 225
Goats 184
Goldman's constant field equation 279
Gramicidin 315
Growth 234

H
$H^+$ permeability 430
$H^+$ pump 362
Heart 45, 340
–, Heart, acetylcholine receptors 45
– cells 437
Heat 480
– loss 600
– production 600
Henle's loop 273, 279
Hepatic resistance 356
High energy phosphates 20
Hindlimb vascular resistance 392
Hippocampal slices 544
Histamine 204
Hodgkin-Huxley rate constants 397
Human calcitonin 502
– muscle cells 163
– red blood cells 568
– – cells 333
α-Human atrial natriuretic polypeptide 273
Hypercapnia 392, 419, 520
Hypercapnic acidosis 608
Hyperosmotic Ringer 485
Hyperpolarization 540
Hyperpolarizing pulses 131
Hyperthermia 184, 351
Hyperthermic effect 312
Hypoglycemia 37
Hypothalamic temperature 351
Hypothalamus in rats 480
Hypoxia 392, 419
Hypoxic perfusion 608

I
I 60
Inactivation of calcium-channel current 241
Inorganic phosphate excretion 387
– sulfate excretion 387
Input resistance 112
Insulatory effects 547
Insulin-induced hypoglycemia 37
Internal calcium 433
Interstitial potassium 458
Intestinal electrolyte transport 509
Intestine 323
Intracellular calcium 427
– chloride activity 204
– microelectrodes 367
– Na activity 144
– pH 362, 430
– potassium 458
– recording 91
– recordings 112
– sodium 362
Intravascular volume 356
Inward rectifier K channel 296
Ion transport 557
Ion-gradient recovery 458
Ion-gradients 458
Ion-selective microelectrodes 641
Ionic channels 163, 629
– coupling 204
Ionophoresis 99
Isolated cardiac and smooth muscle preparation 232
– perfused guinea pig heart 608
– rat glomeruli 485
– – kidney tubules 285, 291
– salivary acinar cells 69
– single cells 427
– smooth muscle cells 259
– tubules 273
Isometric muscle contraction 458
Isoproterenol 367
Isosorbide dinitrate 608

J
Jejunoilectomy 323, 328
Junctional transmission 578
Juxtamedullary nephrons 502

K
K currents 163
K, intracellular + interstitial 458
K ions 464
K uptake 1
$K^+$ channel 563
$K^+$ channels 69
K-depletion 529
K-efflux 529
Kidney 234, 273, 279, 387, 557, 648
– cell culture 380
– cells 367
– functions 405
– innervation 57
–, renin release 485
– tubules 285
Kinetics of quantal release 131

L
Lacrimal glands 65
Lactate efflux 472
Large intestine 323
Laser diffraction 409
Late proximal tubule 198
Light diffraction patterns 409
Limulus 409
Liquid sensor 641
Lissamine green 88
Liver 430
Lobar bronchi 303
Longitudinal resistances 232
Long-loop nephron 279
Loop diuretic 333
– of Henle 502
Lung stretch receptor afferents 12
Lysophosphatidylcholine 296

M
Macro-patch-clamp electrode 131
Madin-Darby canine kidney cells 367
Magnesium 218, 502
Mammalian isolated cells 427
Manganese 190, 218
MDCK-cells 367
Mechanoreceptor afferent units 218
Medullary collecting tubules (MCT) 285
– K recycling 502
– thick ascending limb (MAL) 285
Membrane 424
– conductance 587
– potential 60, 73
– vesicles 60
Metabolic rate 547
Methylguanidine 629
α-Methyl-p-tyrosine 419
Microanalysis 648
Micro-injections 303
Microperfusion 279
Micropuncture 648
Midbrain 151
Miniature end-plate potential 99, 181
– – potentials 83
Minuth 380
Mobile charges 31
Mobilization of free $Ca^{2+}$ 173
Moderate altitude 594
Monensin 315
Monoamines 552
Motoneurone 51
Motor nerve terminals 190, 449
Mucin 6
Muscarinic acetylcholine receptor 45
– agonists 65
– receptors in the heart 45
Muscle 51, 266, 409, 472
– contraction 20
– cultures 163

Myelinated fibre 31
Myelinated nerve fiber 620
– – fibres 397
Myelinated vagal afferent fibres 12
Myocytes 645
Myofibrillar bundles 315
Myosin 266
– heavy chains 266
Myotonia 266
Myotubes 629

N

(–)$N_6$-phenylisopropyl-adenosine 608
Na activation 397
Na activity 144
Na channels 645
Na conductance 645
Na currents 163, 397, 620
Na inactivation 397
Na influx 144, 464
Na, K-ATPase 529
Na, K-pumps 529
$Na^+$ reabsorbtion 198
$Na^+$ selective channels 198
$Na^+$-absorption 497
$Na^+/H^+$ antiport 430
$Na^+$-$K^+$-2 $Cl^-$ co-transport 492
Na-K-ATPase 323
Na-K-ATPase 328
Na-K-Cl carrier 65
Natriuresis 237
Natriuretic peptides 237
– polypeptide 273
Nerve fibres 397
– stimulation 225
Neural control of respiration 12
– – – circulation 12
Neuromuscular activity 99
– junction 83, 181, 190, 587, 636
Neurones 112, 372
Neurons 86, 544
Neurotensin 312
Neurotransmitter release 121, 131
New distal tubule 557
Newborn rabbits 380
Nicotinic receptors 587
Nifedipine 497
Nisoldipine 190
Nitrendipine 190
Nitrobenzylthioguanosine 25
Nitrobenzylthio-inosine 25
$NO_3$ 60
Nociception 343
Nociceptor stimulation 225
Nodal membrane 31
Node of Ranvier 397, 620
Non acidic chloride secretion 204
Non-adrenergic transmitter 587
Nonshivering thermogenesis 480
Noradrenaline 104, 144, 522
Norepinephrine 57, 480
Nuclei of the solitary tract 12, 372
Nucleus intermediolateralis 112

O

$O_2$ uptake measurements 492
1-Oleoyl-2-acetyl-glycerol (OAG) 6
Olfactory cortex 25
Oocytes 158
Osmolality 485
Osmotic stimulation in renin release 485
Ouabain 340
$^3$H-ouabain binding site concentration 529
Oxyntic cells 204

P

P-50 value 594
Pacemaker current 144, 464
PAH 57
Paracellular pathway 509
– – permeability 279
Parasympathetic nerve 492
Partial denervation 51
Patch clamp 296
– – technique 73
Patch-clamp 104, 198, 536, 563, 629
– electrode 131
– technique 241, 424
– whole cell recording 69
Pd-oscillations 497
Peripheral blood flow 392
– nerve stimulation 225
Permselectivity for cations 279
pH 315, 472, 620
– changes 315
– gradient 315
– intracellular 362
Phenoxybenzamine 57
Phentolamine 367
Phenylalanine 574
2-(4-Phenylpiperidino) cyclohexanol (AH5183) 83
Phorbol ester 6
– – on spontaneous transmitter release 181
Phosphate 387
Piretanide 333
Placental microvillus membrane vesicles 60
Plasma renin 405
Polarization of nerve terminals 131
Polymyxin B 6
Portal vein 138, 427
Potassium absorption 509
– channel 190, 424
– concentrations, external 291
– conductance 296, 574, 587
– current 372
– secretion 509
Potassium-conductance 367
Potentiation 636
Preoptic area 86, 480
Presynaptic calcium currents 190
– depolarization 12
Principal cell 380
Procaine 315
Propionate 472
Protein kinase C 6, 181
Protonophores 315
Proximal tubules (pars recta) 198
Pulmonary stretch receptor 303
Purinergic receptors 578
Purinoceptor's 158
Purkinje cells 424
– fibre 464
– fibres 144
Pyramidal neurons 544

Q

Qiun 2 427
Quabain 285
Quabain-treated MAL 291
Quanta 83
Quin2 173
Quinidine 544
– sulphate 158
Quinine 544

R

Rapid rehydration 405
$^{86}$Rb-efflux 529
Rebreathing 615
Red blood cells 568
– cells 333
Regional blood flow 37
Rehydration 405
Release of transmitter quanta 449
Renal acidification 520
– arteries 308
– brush border membrane 234
– collecting duct 380
– – – principal cell epithelium 380
– function 405
– medulla 279
– proximal tubule 574
– reabsorption 557
– test dyes 88
– vasculatures 273
Renin 405, 578
– release 485
Repetitive neuromuscular activity 99
Reserpine 419, 552
Respiratory control 372, 615
– cycle 303
– evaporative heat loss 600
– heat dissipation 343
Resting membrane potential 91, 458
– potassium conductance 296
– potential 144
Reversal potentials 437

S

Salicylate 60
Saline infusion 387
Salivary acinar cells 69
– – secretion 492
– secretion 351
Sarcomere length variation 409
Sarcoplasmic reticulum 266
– – (SR) 315
SCN 60
Scorpion Centruroides sculpturatus 620
– toxins 620
Scrotal temperature 351
Seal- and patch-resistance 73
Secretion 6, 509
Secretory granules 485
Sensory neurones 433
– neurons 104, 151

Septal area 86
Serotonin 552
Single cardiac ventricular cells 241
– cell 536
– channel conductance 198
– ion channel 138
– sucrose-gap method 540
– ventricular cell 296
Single-cell voltage-clamp 536
Single-channel conductance 73
Single-electrode voltage-clamp 372
Sinoaortic baroreceptor denervation 356
SITS 333
Skeletal muscle 20, 529
Skin temperature 600
Skinned renal arteries 308
Small animal $CO_2$ test 651
– intestinal resection 323
Smooth muscle 138, 232
– – cells 173, 259, 578
– – membrane 138, 587
Sodium channel gating 31
– coupled transport 574
– efflux 333
– excretion 57, 387
– transport 380, 497
Sodium-chloride-potassium cotransport 509
Spinal cord in vitro 91
Splanchnic circulation 356
– intravascular volume 356
Spontaneous transmitter release 181
Sprouting 51
Stimulus frequency 645
Striated muscle 409
Strontium 190
Strophanthidin 340
Subcellular distribution of high energy phosphates 20
Subiculum 86
Submandibular gland 6, 492
Submaxillary gland 1
Sucrose gap technique 232
Sulfate 387
Superfused rat glomeruli 485
Superfusion 536
Supersensitivity of renal tubule 57
Surface charge 437
– epithelial cells 204
Sympathectomy 552
Sympathetic background activity 112
– excitation
– nerve terminal 587
– neurons 91, 104
– postganglionic nerve terminal 587
– preganglionic neurones 112
– – neurons 91
– tone 392
Synaptic mechanisms 91
– transmitter release 121
Systemic hypoxia 392

**T**

Temperature 285, 397, 641
– dependance or release of transmitter 449
– regulation 184, 547
12-O-Tetradecanoylphorbol-13-acetate (TPA) 6, 181
Tetraethylammonium 138
Tetrodotoxin 91, 645
Theophylline 158
Thermal safety limit 184
Thermogenesis 480
Thermoregulation 37, 343, 480
Thermoregulatory responses 547
Thermosensitive preoptic and septal neurons 86
Thyroid hormones 529
– status 529
Thyroparathyroidectomized rats 387
Tight epithelia 492
Time course of quantal release 121
Tissue culture 380
Torus semicircularis 151
Total intravascular volume 356
Trachea 303
Tractus solitarius 12
Training 594
Transepithelial potential difference 497
– resistance 380
Transient inward current 296
– outward current 424
Transmembrane flux 472
Transmitter release 181, 636
Trifluoperazine 308
Trout *Salmo gairdneri* 151
Trunk temperatures 184
TTX 397, 587
Tumor promotor 181
Tyramine 1

**U**

Urea 648
Urinary concentrating mechanism 502
Urine acid-base moieties 520

**V**

Vas deferens 587
Vascular resistance 392
– smooth muscle 138, 173, 308, 427
Ventral medulla 225
Ventricles 45
Ventricular cells 296
– myocytes 437, 645
Verapamil 367
Voltage activation 563
Voltage clamp 31, 397, 620
– – studies 296
– dependent outward K currents 163
– dependent process 121
Voltage-clamp 99, 372
Voltage-clamped frog node of Ranvier 620
Voltage-dependent Ca current 212
– channels 163
Voltage-dependent current 372

**W**

Whole-cell patch clamp 259

**X**

Xenopus oocytes 158